Subject: UltraShift PLUS Shift Bar Housing Update

Document Number: TAIB-0884

Date: August 24, 2020

Issue Description:
Eaton Cummins Automated Transmission Technologies has changed the shift bar housing (SBH) material from cast iron to die cast aluminum on the UltraShift PLUS family of manual automated transmissions. This change is identified by part number, material type and weight.

The SBH to main case sealing method has changed from a gasket to RTV. Modifications have been made to the main case mating surface to promote RTV adhesion and capture.

Change Summary:
- **Die cast aluminum shift bar housing changes include:**
  - New part numbers are 4308880 and 4309024.
  - Reduced weight by approximately 18.25 lbs. from the cast iron SBH.
  - Various casting and machining changes to maintain component stack-up (speed sensor depths and shift yoke clearances).
  - RTV sealing method replaces SBH gasket.
Main case changes include:
- Nine new part numbers
- SBH mating surface finish machining specification widened to promote RTV adhesion.
- SBH mating surface secondary inner perimeter machining cut added for RTV overflow capture.
- Machining of 6 and 8-bolt PTO mounting surfaces was included to allow RTV to be used for sealing

Note: A gasket may still be used.

Affected Models/Population:
UltraShift PLUS MXP, VXP, MHP, VCS and VMS models

Field Service Strategy:
The UltraShift PLUS Automated Transmissions Service Manual (TRSM0940) has been updated to include the aluminum SBH removal and installation procedures. A letter of instruction (L-Letter) is included in all associated service part kits. Aluminum SBH sealant is Loctite 5810A RTV.

Frequently Asked Questions:
- How do I know which SBH, cast iron or aluminum, is used with my main case?
  o All transmission bill-of-materials have been updated.
  o The Inforanger parts website has been updated with the new parts and kits.
  o Letters of instruction (L-Letters) describing the changes are included with all new parts and kits.
  o Reference the UltraShift PLUS Automated Transmissions Service Manual (TRSM0940) which has been updated to include aluminum SBH removal and installation procedures.
• Are the internal parts of the aluminum SBH assembly the same parts used in the cast iron SBH assembly (rails, yokes, interlock, shift blocks, etc.)?
  o Yes, there have been no changes to the internal SBH components.
• Are there any changes to SBH component stack-up (speed sensor depths and shift yoke clearances)?
  o No, the new SBH design has addressed these concerns.
• Can an aluminum SBH be used on an old main case originally built with a cast iron SBH?
  o Yes, the aluminum SBH is backwards compatible however sealing with RTV is required.
• If an aluminum SBH is used on a main case that was originally built with a cast iron SBH what sealing method is required?
  o Loctite 5810A RTV

• Can a cast iron SBH be used on a main case designed for an aluminum SBH?
  o No, a new aluminum SBH must be used to achieve a positive seal with the newly designed main case.

• Can gaskets still be used at the PTO covers on a newly designed main case?
  Yes, RTV is preferred but a gasket may be used.

**Warranty Information**

Failure to successfully complete the removal and installation procedures outlined in the UltraShift PLUS Automated Transmissions Service Manual (TRSM0940) may result in a shift bar housing to main case oil leak and would not be a warrantable failure.

The material contained in this bulletin is product improvement information. Eaton is not committed to, or liable for, canvassing existing products.  

FSUD: 2020-FSUD-4196